

# **CITY OF DE PERE**

## **PROJECT 19-03**

### **CIPP SEWER LINING**

**BID DATE:  
JANUARY 31, 2019  
@ 1:00 PM**

Bid documents, including plans and specifications, are available for download at [www.QuestCDN.com](http://www.QuestCDN.com). The QuestCDN website can also be accessed through the City website at [www.de-pere.org](http://www.de-pere.org). On the homepage, click on the City Departments tab at the top, then click on Public Works, then Engineering, then Construction Projects, then 2019 Construction Projects. Download cost is \$15 for each contract. Bidding documents may be viewed on the QuestCDN website or at the Municipal Service Center.

Bid Tabs must be verified by staff prior to posting and will be available for viewing on the website within 7 days following the bid opening. Award information will be pending until approved by the Common Council.

**SECTION 00 01 10**

**TABLE OF CONTENTS**

**INTRODUCTORY INFORMATION**

<u>Section</u>	<u>Title</u>
00 00 01	PROJECT MANUAL COVER
00 01 10	TABLE OF CONTENTS

**PROJECT BID DOCUMENTS**

<u>Section</u>	<u>Title</u>
00 11 13	ADVERTISEMENT TO BID
00 21 13	INSTRUCTIONS TO BIDDERS
00 41 13	BID FORM
00 41 43	BID SCHEDULE
00 43 13	BID BOND
00 43 33	PROPOSED PRODUCTS FORM
00 43 36	TABULATION OF SUBCONTRACTOR

**CONTRACTING REQUIREMENTS**

<u>Section</u>	<u>Title</u>
00 51 00	NOTICE OF AWARD
00 52 13	CONTRACT
00 55 00	NOTICE TO PROCEED
00 61 13	PAYMENT BOND
00 61 16	PERFORMANCE BOND
00 62 76	APPLICATION FOR PAYMENT
00 65 16	CERTIFICATE OF SUBSTANTIAL COMPLETION

<b>DIVISION 1</b>		<b>GENERAL REQUIREMENTS</b>	
<u>Section</u>			<u>Title</u>
01 10 00			SUMMARY OF WORK
01 22 06			MEASUREMENT AND PAYMENT PIPE LINING –CIPP
01 22 07			MEASUREMENT AND PAYMENT MANHOLE REHABILITATION
01 29 00			PAYMENT PROCEDURES
01 32 33			CONSTRUCTION PHOTOGRAPHS
01 33 00			SUBMITTALS
01 41 00			REGULATORY REQUIREMENTS

**SUPPLEMENTAL SPECIAL PROVISIONS**

<u>Section</u>	<u>Title</u>
33 01 30	CURED IN PLACE PIPE

**EXHIBITS**

INTERNAL GROUTING AND SPOT REPAIRS-WEST SIDE (9 PAGES)  
INTERNAL GROUTING AND SPOT REPAIRS-EAST SIDE (5 PAGES)  
LARGER DIAMETER LINED PIPE DRAINAGE AREAS (4 PAGES)  
TELEVISIONING REPORTS FOR SEWER LINING (304 PAGES)  
TELEVISIONING REPORTS FOR GROUTING AND SPOT REPAIRS (95 PAGES)  
TRUCK ACCESS ROUTES (1 PAGE)

**CITY OF DE PERE 2019 STANDARD SPECIFICATIONS**

**CONTRACTING REQUIREMENTS**

<u>Section</u>	<u>Title</u>
00 70 00	GENERAL CONDITIONS (See City of De Pere 2019 Standard Specifications)

**DIVISION 31 – EARTHWORK**  
(See City of De Pere 2019 Standard Specifications)

**DIVISION 32 – EXTERIOR IMPROVEMENTS**  
(See City of De Pere 2019 Standard Specifications)

**DIVISION 33 – UTILITIES**  
(See City of De Pere 2019 Standard Specifications)

**SECTION 00 11 13**

**JANUARY 10, 2019 – JANUARY 17, 2019**

**CITY OF DE PERE**

**ADVERTISEMENT TO BID**

**PROJECT 19-03**

**CIPP SEWER LINING**

Sealed proposals will be received by the Board of Public Works of the City of De Pere at the Municipal Service Center, 925 South Sixth Street, De Pere, Wisconsin 54115, until 1:00 PM. Thursday January 31, 2019, at which time they will be publicly opened and read aloud.

Project 19-03 for which proposals are being sought includes the following approximate quantities:

- 11,500 LF of 8” to 18” Cured-In-Place Pipe Lining and Associated Work
- Joint Grouting

Complete digital project bidding documents are available for viewing and or downloading at [www.QuestCDN.com](http://www.QuestCDN.com) or may be examined at the office of the Director of Public Works. Digital plan documents may be downloaded for \$15 by inputting Quest project #6074711 on Quest’s Project Search page. The QuestCDN website can also be accessed through the City website at [www.de-pere.org](http://www.de-pere.org). On the homepage, click on the City Departments tab at the top, then click on Public Works, then Engineering, then Construction Projects, then 2019 Construction Projects.

Each proposal shall be accompanied by a certified check or bid bond in an amount equal to five percent (5%) of the bid, payable to the City of De Pere, as a guarantee that if the bid is accepted, the bidder will execute a contract and furnish a contract bond as set forth in the General Conditions of the City of De Pere. In case the bidder fails to file such contract and bond, the amount of the check or bid bond shall be forfeited to the City of De Pere as liquidated damages.

The letting of the contract is subject to the provisions of the following Wisconsin Statutes:

Section 62.15 regarding Public Works.

Section 66.0901(3) regarding Prequalification of Contractor.

Each bidder shall pre-qualify by submitting proof of responsibility on forms furnished by the Director of Public Works. Such forms shall be filed with the Director of Public Works no later than 4:00 P.M., Monday, January 28, 2019. Prospective bidders who have previously submitted such forms subsequent to January 1, 2019 will not be required to separately submit such form for this project.

**Project 19-03  
CIPP Sewer Lining**

**City of De Pere**

The City of De Pere reserves the right to reject any or all bids, to waive any informalities in bidding and to accept any proposal which the Common Council deems most favorable to the interest of the City of De Pere.

Dated this 10<sup>th</sup> day of January 2019.

Board of Public Works  
City of De Pere  
Eric Rakers, P.E.  
City Engineer

Project 19-03

**SECTION 00 21 13  
INSTRUCTIONS TO BIDDERS**

**ARTICLE 1 – DEFINED TERMS**

- 1.1 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

None

**ARTICLE 2 – COPIES OF BIDDING DOCUMENTS**

- 2.1 Complete sets of the Bidding documents in the number and for the deposit sum, if any, stated in the Advertisement or Invitation to Bid may be obtained as stated in the Advertisement for bids.
- 2.2 Complete sets of Bidding Documents shall be used in preparing Bids; Owner does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.3 Owner, in providing the Bidding Documents on the terms stated in the Advertisement for Bids, does so only for the purpose of obtaining Bids for the Work and does not confer a license or grant for any other use.

**ARTICLE 3 – QUALIFICATIONS OF BIDDERS**

- 3.1 In accordance with Section 66.0901(3), each bidder shall pre-qualify by submitting proof of responsibility on forms furnished by the Director of Public Works. Such forms shall be filed with the Director of Public Works as stated in the advertisement for Bids. Prospective bidders who have previously submitted such forms after January 1<sup>st</sup> of this year will not be required to separately submit such form for this project.

**ARTICLE 4 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA AND SITE**

- 4.1 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in the General Conditions.
- 4.2 Underground Facilities
- A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

**4.3 Subsurface and Physical Conditions**

**A. The technical data includes:**

1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
2. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except underground Facilities).
3. No reports of explorations or tests of subsurface conditions at or contiguous to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

**B. Limited Reliance by Contractor on Technical Data Authorized:** Contractor may rely upon the accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Contractor may not rely upon or make any claim against Owner, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor’s purposes, including but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. Other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. Any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

**4.4** On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

**4.5** Reference is made to Section 01 10 00: Summary of Work, for work that will be completed and for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of Contract Documents (other portions thereof related to price) for such other work.

**4.6** It is the responsibility of each Bidder before submitted a Bid to:

**A.** Examine and carefully study the Bidding Documents, the other related data identified in the Bidding Documents, and any Addenda;

**B.** Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

- C. Become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;
  - D. Obtain and carefully study (or accept consequences of not doing so) all examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;
  - E. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;
  - F. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
  - G. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawing identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;
  - H. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies, that bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and
  - I. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- 4.7 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and, procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

**ARTICLE 5 – SITE AND OTHER AREAS**

- 5.1 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

**ARTICLE 6 – INTERPRETATIONS AND ADDENDA**

- 6.1 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 6.2 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner and Engineer.

**ARTICLE 7 – BID SECURITY**

- 7.1 A Bid shall be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder's maximum Bid price and in the form of a certified check or bank money order or Bid bond (on the form attached) issued by a surety meeting the requirements of the General Conditions. Submittal of a Bid Bond on a form other than the Bid Bond form included in the Bidding Documents may be cause for rejection of Bid.
- 7.2 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner per the General Conditions.
- 7.3 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

**ARTICLE 8 – CONTRACT TIMES**

- 8.1 The number of days within which, or the dates by which, Milestones are to be achieved and the Work is to be substantially completed and ready for final payment are set forth in the Bid Form and Summary of Work.

**ARTICLE 9 – LIQUIDATED DAMAGES**

- 9.1 Provisions for liquidated damages are set forth in the General Conditions.

**ARTICLE 10 – SUBSTITUTE AND “OR-EQUAL” ITEMS**

- 10.1 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or “or-equal” items. Whenever it is specified or described in the Bidding Documents that a substitute or “or-equal” item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Bid Form and Summary of Work.

**ARTICLE 11 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS**

- 11.1 The Bidder shall submit with the Bid to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, in which case apparent Successful Bidder shall submit an acceptable substitute, Bidder’s Bid price will be increased ( or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.
- 11.2 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposed to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner subject to revocation of such acceptance after the Effective Date of the Agreement.
- 11.3 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

**ARTICLE 12 – PREPARATION OF BID**

- 12.1 The Bid form is included with the Bidding documents.
- 12.2 All blanks on the Bid Form shall be completed by printing in ink or by typewrite and the Bid signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each alternative, and unit price item listed therein, or the words “No Bid,” “No Change,” or “Not Applicable” entered.
- 12.3 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the seal.
- 12.4 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.
- 12.5 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown below the signature.
- 12.6 A Bid by an individual shall show the Bidder’s name and official address.
- 12.7 A Bid by a joint venture shall be executed by each joint venture in the manner indicated on the Bid Form. The official address of the joint venture shall be shown below the signature.
- 12.8 All names shall be typed or printed in ink below the signatures.
- 12.9 The Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 12.10 The address and telephone number for communications regarding the Bid shall be shown.
- 12.11 The Bid shall contain evidence of Bidder’s authority and qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the Contract. Bidder’s state contractor license number, if any, shall also be shown on the Bid Form.

**ARTICLE 13 – BASIS OF BID; COMPARISON OF BIDS**

**13.1 Unit Price**

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid Schedule.

- B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accord with the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

**ARTICLE 14 – SUBMITTAL OF BID**

- 14.1 A Bid shall be submitted no later than date and time prescribed and at place indicated in Advertisement for Bids and shall be enclosed in a plainly marked package with the Project title (and, if applicable, designated portion of the Project for which the Bid is submitted), name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on outside with the notation “BID ENCLOSED.” A mailed Bid shall be addressed to City of De Pere, Municipal Service Center, 925 S. Sixth Street, De Pere, WI 54115. Electronically transmitted Bids will not be accepted.
- 14.2 See Bid Form for a list of documents typically required to be submitted with the Bid.

**ARTICLE 15 – MODIFICATION AND WITHDRAWAL OF BID**

- 15.1 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.
- 15.2 If within 24 hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

**ARTICLE 16 – OPENING BIDS**

- 16.1 Bids will be opened at the time and place indicated in the Advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

**ARTICLE 17 – BIDS REMAIN SUBJECT TO ACCEPTANCE**

- 17.1 All bids will remain subject to acceptance for the period of time stated in the General Conditions, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

**ARTICLE 18 – EVALUATION OF BIDS AND AWARD OF CONTRACT**

- 18.1 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.
- 18.2 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 18.3 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 18.4 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Supplier, and other individuals or entities proposed for those portions of the Work for which the identify of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 18.5 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.
- 18.6 Bidder agrees to waive any claim it has or may have against the Owner and the respective employees arising out of or in connection with the administration, evaluation or recommendation of any Bid.
- 18.7 If the Contract is to be awarded, Owner will award the Contract to the lowest responsible responsive Bidder whose Bid is in the best interests of the Project.

**ARTICLE 19 – CONTRACT SECURITY AND INSURANCE**

- 19.1 The General Conditions set forth Owner's requirements as to performance and payment

bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds and a certificate of insurance.

**ARTICLE 20 – SIGNING OF AGREEMENT**

20.1 When Owner gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within 10 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of Drawings with appropriate identification.

- END OF SECTION -

**SECTION 00 41 13**

**CITY OF DE PERE**

**BID FORM**

**PROJECT 19-03**

This bid, submitted by the undersigned Bidder to the City of De Pere, in accordance with the Advertisement or Invitation to Bid, which will be received until 1:00 PM. Thursday January 31, 2019 is to furnish and deliver all materials, and to perform and do all work on the project designated, in by October 19, 2019

Bidder has examined and carefully prepared the bid from the plans and specifications and has checked the same in detail before submitting said proposal or bid; and that said bidder or bidder's agents, officer or employees have not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal or bid.

Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

<u>Addendum No.</u>	<u>Addendum Date</u>
_____	_____
_____	_____

**BASIS OF BID:**

Bidder will complete the Work in accordance with the Contract documents for the following prices (s):

As stated in the attached Unit Price Bid Schedule.

Unit Prices have been computed in accordance with the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

**TOTAL BID PRICE:** \$ \_\_\_\_\_

**ATTACHMENTS TO THIS BID**

The following documents are submitted with and made a condition of this Bid:

- A. Required Bid Security
- B. Unit Price Bid Schedule (Section 00 41 43)
- C. Proposed Products Form (Section 00 43 33)
- B. Tabulation of Subcontractors (Section 00 43 36)

**BID SUBMITTAL**

This Bid is submitted by \_\_\_\_\_ of \_\_\_\_\_,

The Bidder, being duly sworn, does dispose that they are an authorized representative of

Bidder, if Bidder is:

An Individual

Name (typed or printed): \_\_\_\_\_

By: \_\_\_\_\_  
(Individual's signature)

Doing business as: \_\_\_\_\_

A Partnership

Partnership Name: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature of general partner – attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

A Corporation

Corporation Name: \_\_\_\_\_

State of Incorporation: \_\_\_\_\_

Type (General Business, Professional, Service, Limited Liability): \_\_\_\_\_

By: \_\_\_\_\_  
(Signature – attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

(CORPORATE SEAL)

Attest \_\_\_\_\_

Date of Qualification to do business in Wisconsin is \_\_\_/\_\_\_/\_\_\_.

Joint Venture

Name of Joint Venture: \_\_\_\_\_

First Joint Venturer Name: \_\_\_\_\_ (SEAL)

By: \_\_\_\_\_

(Signature of first joint venture partner – attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

Second Joint Venturer Name: \_\_\_\_\_ (SEAL)

By: \_\_\_\_\_

(Signature of second joint venture partner – attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

(Each joint venture must sign. Manner of signing for each individual, partnership, and corporation that is a party to joint venture should be in manner indicated above.)

Bidder's Business Address \_\_\_\_\_

\_\_\_\_\_

Phone No. \_\_\_\_\_ Fax No. \_\_\_\_\_

E-mail \_\_\_\_\_

SUBMITTED on \_\_\_\_\_, 20\_\_.

State Contractor License No. \_\_\_\_\_ (if applicable).

**SECTION 00 41 43**

**CITY OF DE PERE  
PROJECT 19-03  
BID SCHEDULE – UNIT PRICE**

<b>ITEM</b>	<b>ITEM DESCRIPTION</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>UNIT PRICE</b>	<b>AMOUNT BID</b>
SP-01	Merrill Street – Erie to Jordan (18’’)	LF	315	\$ _____	\$ _____
SP-02	Merrill Street – Jordan Road (8’’)	LF	1,699	\$ _____	\$ _____
SP-03	Ontario Street – Lewis to Chicago (12’’)	LF	481	\$ _____	\$ _____
SP-04	Outward Avenue – Helena to Westwood (8’’)	LF	1,213	\$ _____	\$ _____
SP-05	Park Street – Allard to Ninth (8’’)	LF	920	\$ _____	\$ _____
SP-06	Sunrise Court (8’’)	LF	105	\$ _____	\$ _____
SP-07	Ash Street – 9 <sup>th</sup> to Interceptor (8’’)	LF	428	\$ _____	\$ _____
SP-08	Azalea Trail – Outward to Seventh (8’’)	LF	329	\$ _____	\$ _____
SP-09	Cardinal Street – Hockers to Cook (8’’)	LF	578	\$ _____	\$ _____
SP-10	Fort Howard Avenue – Main to Sixth (8’’)	LF	223	\$ _____	\$ _____
SP-11	Fort Howard Avenue – Parkview to Leonard (8’’)	LF	1,480	\$ _____	\$ _____

**Project 19-03  
CIPP Sewer Lining**

**City of De Pere**

SP-12	Leonard Street – Fort Howard to Termini (15’’)	LF	708	\$ _____	\$ _____
SP-13	Easement – Franklin/Franklin to Huron/Erie (8’’)	LF	147	\$ _____	\$ _____
SP-14	Main Street – 9 <sup>th</sup> to 180’ West (10’’)	LF	577	\$ _____	\$ _____
SP-15	Lewis – Erie Intersection (12’’)	LF	309	\$ _____	\$ _____
SP-16	Prosper Street – Enterprise to HWY PP (10’’)	LF	1,344	\$ _____	\$ _____
SP-17	Erie Street – Fulton to Ridgeway (8’’)	LF	159	\$ _____	\$ _____
SP-18	Televising Sanitary Laterals	EA	35	\$ _____	\$ _____
SP-19	Internal Grouting	EA	10	\$ _____	\$ _____
SP-20	CIPP Patch	EA	5	\$ _____	\$ _____
SP-21	Poured in Place Bench	EA	1	\$ _____	\$ _____
<b>TOTAL AMOUNT BID:</b>					\$ _____

**SECTION 00 43 13**

**CITY OF DE PERE**

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS: That \_\_\_\_\_,

as Principal, hereinafter called Principal, and \_\_\_\_\_,

as Surety, hereinafter called Surety, are held and firmly bound unto the City of De Pere, a municipal corporation of the State of Wisconsin, as Obligee, hereinafter called City, in the amount of

\_\_\_\_\_ dollars (\$\_\_\_\_\_)  
for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presence.

WHEREAS, Principal has made a proposal to the City for furnishing all materials, labor, tools, equipment and incidentals necessary to complete the work of Project 19-03 in accordance with drawings and specifications prepared by the Director of Public Works of said City, which proposal is by reference made a part hereof, and is hereinafter referred to as the BID.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall be awarded the contract for said project and Principal shall enter into a contract in accordance with the BID, then this obligation shall be null and void; otherwise it shall remain in full force and effect, provided that:

1. The liability of Surety shall in no event exceed the penalty of this bond.
2. Any suits at law or proceedings, in equity brought or to be brought against Surety to recover any claim hereunder shall be executed within six (6) months from the date of this instrument.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

In the presence of:

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
PRINCIPAL (SEAL)

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
SURETY (SEAL)

**SECTION 00 43 33**

**PROPOSED PRODUCTS FORM**

The following is a list of material, type or model numbers and manufacturers used in the preparation of this proposal and to be used on this project:

<u>ITEM</u>	<u>MATERIAL</u>	<u>SUPPLIER</u>
Cured In Place Pipe	_____	_____
Internal Grouting	_____	_____
Cured-In-Place Spot Repair	_____	_____



**SECTION 00 51 00  
NOTICE OF AWARD**

(Contractor)  
(Contractor Name)  
(Address)  
(Address)

Project Description: 19-03 CIPP Sewer Lining

The City has considered the proposal submitted by you dated (BID DATE) for the above-described project in response to its Advertisement for Bids dated January 10, 2019 and January 17, 2019.

You are hereby notified that the Common Council of the City of De Pere has accepted your bid of (Contract Amount \$\_\_\_\_\_.00).

You are required to execute the Contract and furnish the required Performance Bond, Payment Bond and Certificates of Insurance within ten (10) calendar days from the date of this notice to you.

If you fail to execute said Agreement and to furnish said bonds within ten (10) days from the date of this notice, said City will be entitled to consider all your rights arising out of the City's acceptance of your bid as abandoned and as a forfeiture of your Bid Bond. The City will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the City.

Dated this \_\_th day of \_\_\_\_\_ 2019.

\_\_\_\_\_  
DEPARTMENT OF PUBLIC WORKS

BY: Eric P. Rakers, P.E.  
City Engineer

**ACCEPTANCE OF NOTICE**

Receipt of the above NOTICE OF AWARD is hereby acknowledged by:

\_\_\_\_\_, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

**SECTION 00 52 13  
CONTRACT**

This Contract, made and entered into this day \_\_\_\_\_ (date to be affixed by City), by and between (Contractor Name), hereinafter called Contractor, and the City of De Pere, a municipal corporation of the State of Wisconsin, hereinafter called City.

WITNESSETH: That, in consideration of the covenants and agreements herein contained, to be performed by the parties hereto, and of the payments hereinafter agreed to be made, it is mutually agreed as follows:

ARTICLE I - SCOPE OF WORK

The Contractor shall furnish all materials and all equipment and labor necessary, and perform all work shown on the drawings and described in the specifications for the project entitled Project 19-03, CIPP Sewer Lining, all in accordance with the requirements and provisions of the following documents, which are hereby made a part of this Contract:

- (a) Advertisement for Bids, dated (1<sup>st</sup> Advertising Date) and (2<sup>nd</sup> Advertising Date).
- (b) Drawings designated for Project Number and Name dated (1<sup>st</sup> Advertising Date).
- (c) City of De Pere 2019 Construction Specifications.
- (d) Special Provisions dated (1<sup>st</sup> Advertising Date)
- (e) Proposal submitted by (Contractor Name) dated Bid Date.
- (f) Addenda No. dated

ARTICLE II - TIME OF COMPLETION

- (a) The work to be performed under the Contract shall be commenced within (number spelled out) (\_\_) calendar days after receipt of written notice to proceed. The work shall be completed within (Number spelled out) (\_\_) calendar days ) or (specific calendar dates) after receipt of Notice to Proceed.
- (b) Time is of the essence with respect to the date of completion herein above stated. Failure to complete the work within the number of calendar days stated in this Article, or interim dates included in the work sequence in Section 01 10 00, Summary of Work, including any extensions granted thereto, shall entitle the City to deduct from the monies due the Contractor an amount equal to Update based on 00 70 00 - General Conditions (Page 22)(\$) per day for each calendar day of delay in the completion of the work. Such amount shall be considered and treated not as a penalty but as liquidated damages, which the City will sustain, by failure of the Contractor to complete the work within the time stated.

ARTICLE III - PAYMENT

- (a) The Contract Sum. The City shall pay to the Contractor for the performance of the Contract the amounts determined for the total number of each of the following units of work completed at the unit price stated thereafter. The number of units contained in this schedule is approximate only,

and the final payment shall be made for the actual number of units that are incorporated in or made necessary by the work covered by the Contract.

- (b) Progress Payments. The City shall make payments on account of the Contract as follows:
1. On not later than the fourth Friday day of every month the Contractor shall present to the City an invoice covering an estimate of the amount and proportionate value of the work done as verified by the City under each item of work that has been completed from the start of the job up to and including the fourth Friday of the preceding month, and the value of the work so completed determined in accordance with the schedule of unit prices for such items, together with such supporting evidence as may be required. This invoice shall also include an allowance for the cost of such materials and equipment required in the permanent work as have been delivered to the site but not as yet incorporated in the work.
  2. On not later than the third week of the following month, the City shall, after deducting previous payments made, pay to the Contractor 95% of the amount of the approved invoice, retaining 5% of the estimate of work done until 50% of the work has been completed. At 50% completion of the work, the previous retainage shall not yet be paid, but further partial payments shall be made in full to the contractor without additional retainage being taken unless the engineer certifies that the work is not proceeding satisfactorily. If the work is not proceeding satisfactorily, additional amounts may be retained. After substantial completion, an amount retained may be paid to the contractor, keeping retained only such amount as is needed for the remaining work.
  3. The Contractor shall notify the City in writing when all work under this Contract has been completed. Upon receipt of such notice the City shall, within a reasonable time, make the final inspection and issue a final certificate stating that the work provided for in this Contract has been completed and is accepted under the terms and conditions thereof, and that the entire balance due the Contractor as noted in said final certificate is due and payable. Before issuance of the final certificate the Contractor shall submit evidence satisfactory to the City that payrolls, material bills, and other indebtedness connected with the work under this Contract have been paid.

The City shall make final payment as soon after issuance of the final certificate as practicable.

#### ARTICLE IV – CONTRACT DOCUMENTS

- (a) Contents
1. The Contract documents consist of the following:
    - a. This Contract (pages 00 52 13-1 to 0052-13-2, inclusive).
    - b. Payment bond (pages 00 61 13-1 to 00 61 13-2, inclusive).
    - c. Performance bond (page 00 61 16-1).
    - d. General Conditions (pages 00 70 00-1 to 00 70 00-27, inclusive).
    - e. Specifications as listed in the table of contents of the Project Manual.
    - f. Drawings consisting of \_\_\_ sheets with each sheet bearing the following general title: \_\_\_[or] the Drawings listed on attached sheet index.
    - g. Addenda (numbers \_\_\_ to \_\_\_ inclusive), dated \_\_\_\_\_.
    - h. Exhibits to this Agreement (enumerated as follows):
      - 1) Contractor's Bid (pages 00 41 13-1 to 00 41 13-3, inclusive).
      - 2) Bid Schedule – Unit Prices (Pages 00 41 43-1).
      - 3) Proposed Products Form (Page 00 43 33-1)
      - 4) Tabulation of Subcontractors (page 00 43 36-1).
      - 5) Documentation submitted by Contractor prior to Notice of Award (00 51 00-1 )



**SECTION 00 55 00  
NOTICE TO PROCEED**

Date: \_\_\_\_\_

(CONTRACTOR NAME)  
(ADDRESS)  
(ADDRESS)

PROJECT: 19-03, CIPP Sewer Lining

You are hereby notified to commence work in accordance with the CONTRACT dated \_\_\_\_\_, within ten (10) days of this Notice. All work under this contract shall be completed within \_\_\_\_\_ (NUMBER IN WORDS) (\_\_\_#) consecutive days from the start of construction or \_\_\_\_\_ (DATE) whichever comes first.

\_\_\_\_\_  
Department of Public Works

By: Eric P. Rakers, P.E.  
Title: City Engineer

**ACCEPTANCE OF NOTICE**

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by

\_\_\_\_\_, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.  
Company Name

\_\_\_\_\_  
Signature

BY: \_\_\_\_\_  
Printed Name

TITLE: \_\_\_\_\_

**SECTION 00 61 13**

**CITY OF DE PERE**

**PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS: That **(CONTRACTOR NAME)**, as Principal, hereinafter called Contractor, and \_\_\_\_\_

\_\_\_\_\_, as Surety, hereinafter called Surety, are held and firmly bound unto the City of De Pere, a municipal corporation of the State of Wisconsin, as Obligee, hereinafter called the owner, for the use and benefit of claimants as herein below defined in the amount \_\_\_\_\_ **(CONTRACT AMT. SPELLED OUT)** (\$\_\_\_\_\_) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated \_\_\_\_\_ (date to be affixed by City) entered into a contract with City for Project 19-03, in accordance with drawings and specifications prepared by the Director of Public Works of said City, which contract is by reference made a part hereof, and is hereinafter referred to as the CONTRACT.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly make payments to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the CONTRACT, then this obligation shall be null and void; otherwise it shall remain in full force and effect, subject, however, to the following conditions.

1. A claimant is defined as one having a direct contract with Contractor or with a sub-contractor of Contractor for labor, material, or both, used or reasonably required for use in the performance of the contract, labor and material being construed to include that part of water, gas, power, lights, heat, oil, gasoline, telephone service, or rental of equipment directly applicable to the contract.
2. The above named Contractor and Surety hereby jointly and severally agree with the City that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant may sue on this bond for the use of such claimant in the name of the City, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon, provided, however, that the City shall not be liable for the payment of any costs or expenses of any such suit.
3. No suit or action shall be commenced hereunder by any claimant:
  - a. Unless claimant shall have given written notice to any two of the following: The Contractor, the City, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished,

or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail, postage prepaid, in an envelope addressed to the Contractor, City, or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the State of Wisconsin, save that such service need not be made by a public officer.

- b. After the expiration of one (1) year following the date on which Contractor ceased work on said CONTRACT.
  - c. Other than in a state court of competent jurisdiction in and for the County or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.
4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens, which may be filed or recorded against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

SIGNED AND SEALED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_.

In Presence of:

_____	_____
(WITNESS)	(CONTRACTOR)
_____	_____
(WITNESS)	(SURETY)

**SECTION 00 61 16**

**CITY OF DE PERE**

**PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS: That **(CONTRACTOR'S NAME)**, as Principal, hereinafter called Contractor, and \_\_\_\_\_, as Surety, hereinafter called Surety, are held and firmly bound unto the City of De Pere, a municipal corporation of the State of Wisconsin, as Obligee, hereinafter called City, in the amount of **(AMOUNT WRITTEN OUT)** (\$\_\_\_\_\_) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assign, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated \_\_\_\_\_ (date to be affixed by City), entered into a contract with the City for Project 19-03, in accordance with drawings and specifications prepared by the Director of Public Works of said City, which contract is by reference made a part hereof, and is hereinafter referred to as the CONTRACT.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the Contractor shall promptly and faithfully perform said CONTRACT, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Whenever Contractor shall be, and declared by the City to be in default under the CONTRACT, the City having performed City's obligations there under, the Surety may promptly remedy the default, or shall promptly

1. Complete the CONTRACT in accordance with its terms and conditions or
2. Obtain a bid or bids for submission to City for completing the CONTRACT in accordance with its terms and conditions, and upon determination by the City and Surety of the lowest responsible bidder, arrange for a contract between such bidder and City make available as work progresses (even though there should be a default or succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable by City to Contractor under the CONTRACT and any amendments thereto, less the amount properly paid by City to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the CONTRACT falls due. No right of action shall accrue on this bond to or for the use of any person or corporation other than the owner named herein or the heirs, executors, administrators or successors of City.

SIGNED AND SEALED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_.

In the Presence of:

(WITNESS)	(CONTRACTOR)	(SEAL)
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(WITNESS)	(SURETY)	(SEAL)
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**Contractor's Application for Payment No.**

Application Period:	Application Date:
Owner: City of De Pere	Contractor:
	Contractor's Project No.:

**APPLICATION FOR PAYMENT**

Change Order Summary

Approved Change Orders				
Number	Additions	Deductions		
Total	\$0.00	\$0.00		
<b>NET CHANGE BY CHANGE ORDERS:</b>			<b>\$0.00</b>	

  

1. ORIGINAL CONTRACT PRICE:.....	\$0.00
2. Net change by Change Orders and Written Amendments (+ or -):.....	\$0.00
3. CURRENT CONTRACT PRICE (Line 1 plus Line 2):.....	\$0.00
4. Total completed and stored to date Column H on Progress Estimate:....	\$0.00
5. Retainage (per Agreement):	
a. Work Completed - Column H (5% up to 50% of Contract or 2.5% of 100% of Contract	\$0.00
6. AMOUNT ELIGIBLE TO DATE (Line 4 minus 5):.....	\$0.00
7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application).....	\$0.00
8. AMOUNT DUE THIS APPLICATION (Line 6 minus Line 7):.....	\$0.00

**CONTRACTOR'S CERTIFICATION**

The undersigned Contractor certifies that: (1) all previous progress payments received from Owner on account of Work done under Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by the Application for Payment is in accordance with the Contract Documents and is not defective.

By: _____	Date: _____
-----------	-------------

Payment of: \$ \_\_\_\_\_  
(Line 8 or other - attach explanation of other amount)

is recommended by: \_\_\_\_\_ (Contractor) \_\_\_\_\_ (Date)

Payment of: \$ \_\_\_\_\_  
(Line 8 or other - attach explanation of other amount)

is recommended by: \_\_\_\_\_ (Owner) \_\_\_\_\_ (Date)

**SECTION 00 65 16**

**CERTIFICATE OF SUBSTANTIAL COMPLETION**

Project:	
Owner:	Owner's Contract No.:
Contractor:	

This [tentative] [definitive] Certificate of Substantial Completion applies to:

- All Work under the Contract Documents:       The following specified portions of the Work:

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\_\_\_\_\_  
Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Contractor and Engineer, and found to be substantially complete. The Date of Substantial completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [definitive] list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

**The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:**

- Amended Responsibilities                                       Not Amended

Owner's Amended Responsibilities:

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Contractor's Amended Responsibilities:

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The following documents are attached to and made part of this Certificate:

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This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

\_\_\_\_\_  
Executed by Engineer

\_\_\_\_\_  
Date

\_\_\_\_\_  
Accepted by Contractor

\_\_\_\_\_  
Date

**SECTION 01 10 00  
SUMMARY OF WORK**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. Section Includes
  - 1. References
  - 2. Work Covered by the Contract Documents
  - 3. Work Sequence
  - 4. Use of Premises
  - 5. Warranty
  - 6. Work By Others
  - 7. Project Utility Sources
  - 8. Miscellaneous Provisions

**1.2 REFERENCES**

- A. General Specifications The work under this contract shall be in accordance with the City of De Pere, 2019 Construction Specifications and these Special Provisions and plans, and the latest edition of the Wisconsin Department of Transportation Standards Specifications for Highway and Structure Construction, where referenced in the City Specifications.
- B. Definitions. Any reference to the “state” or the “department” in said standard Specifications shall mean the “City of De Pere” for the purposes of this contract.
- C. Industry Standards
  - 1. Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
  - 2. Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
  - 3. If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement.
  - 4. The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements.
  - 5. Each section of the specifications generally includes a list of reference standards normally referred to in that respective section. The purpose of this list is to furnish the Contractor with a list of standards normally used for outlining the quality control

desired on the project. The lists are not intended to be complete or all inclusive, but only a general reference of standards that are regularly referred to.

6. Each entity engaged in construction on the Project shall be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents. Where copies of standards are needed to perform a required construction activity, obtain copies directly from the publication source and make them available on request.

### 1.3 WORK COVERED BY THE CONTRACT DOCUMENTS

#### A. Project Identification

##### 1. Project Location

- a. Merrill Street - Erie to Jordan (18")
  - b. Merrill Street - Jordan Road (8")
  - c. Ontario Street - Lewis to Chicago (12")
  - d. Outward Avenue- Helena to Westwood (8")
  - e. Park Street-Allard to Ninth (8")
  - f. Sunrise Court (8")
  - g. Ash Street - 9th to Interceptor (8")
  - h. Azalea Trail - Outward to Seventh (8")
  - i. Cardinal Street - Hockers to Cook (8")
  - j. Stewart Street - 3rd to Termini (18")
  - k. Fort Howard - Main to Sixth (8")
  - l. Fort Howard - Parkview to Leonard (8")
  - m. Leonard Street - Fort Howard to Termini (15")
  - n. Easement-Franklin/Franklin to Huron/Erie (8")
  - o. Main Street - 9th to 180' West (10")
  - p. Main Street - 9th to 10th (8")
  - q. Lewis-Erie intersection (12")
  - r. Prosper Street - Enterprise to HWY PP (10")
  - s. Erie Street - Fulton to Ridgeway (8")
  - t. Internal Grouting and CIPP Patch – Various locations
  - u. CIPP Patch
2. Work will be performed under the following prime contract:
    - a. Project 19-03, CIPP Sewer Lining

#### B. The Work includes:

1. Sewer cleaning and material disposal
2. Sewer televising
3. Televising sanitary laterals
4. Pipe lining – CIPP
5. Internal Grouting
6. CIPP Patch
7. Bench repair
8. Final sewer televising
9. Traffic control

#### 1.4 WORK SEQUENCE

- A. Conduct construction activities to maintain access to businesses and residences throughout construction.
  
- B. Several of the sewers provide service to businesses. Coordinate lining with businesses. Lining may need to occur at night to accommodate operations. Impacted sewers include:
  - 1. Fort Howard Avenue – Parkview Avenue to 900 feet east. Gas station, construction company, and tavern.
  - 2. Ash Street – East of Eighth Street. Veterinary clinic.
  - 3. Main Street (South Side) – Tenth Street to Ninth Street – Autoparts, drug store, pet washing, sub sandwich shop, tanning facility, and chiropractor.
  - 4. Main Street (North Side) – Tenth Street to 300 feet east – Tavern/restaurant.
  - 5. Fort Howard Avenue – Main Avenue to 300 feet north - Sushi restaurant, salon.
  - 6. Lewis Street at Erie Street – Dentist at 233 Erie Street.
  - 7. Prosper Street – Enterprise Drive to CTH PP – Businesses along entire corridor.
  
- C. Arterial and collector streets will require a traffic control plan. These streets along with work time restrictions are as follows:
  - 1. Fort Howard Avenue –Park Avenue to Leonard Street. No time restrictions. Maintain one lane of travel in each direction.
  - 2. Main Avenue – No traffic obstructions between 7:00 am and 8:30 am and between 3:30 pm and 5:00 pm. Maintain one lane of travel in each direction outside of these times.
  - 3. Fort Howard Avenue at Main Avenue - No traffic obstructions between 7:00 am and 8:30 am and between 3:30 pm and 5:00 pm. Maintain one lane of travel in each direction outside of these times.
  - 4. Ninth Street at Park Street – No time restrictions. Maintain one lane of travel in each direction on Ninth Street.
  - 5. Allard Street at Park Street – No time restrictions. Maintain one lane of travel in each direction.
  - 6. Merrill Street – Erie Street to Knoll Terrace – If work is performed when school is in session, no traffic obstructions between 7:00 am to 8:30 am and between 2:30 pm to 4:00 pm. Maintain one lane of travel in each direction.
  - 7. Chicago Street at Ontario Street – If work is performed when school is in session, no traffic obstructions between 7:00 am to 8:30 am and between 2:30 pm to 4:00 pm. Maintain one lane of travel in each direction.
  - 8. Erie Street at Lewis Street – No time restrictions. Maintain one lane of travel in each direction.
  - 9.

#### 1.5 USE OF PREMISES

- A. Contractor shall have full use of the premises for construction operations, including use of the Project Site, as allowed by law, ordinances, permits, easement agreements and the Contract documents.

- B. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of the Project.
- C. The Project Site is limited to property boundaries, rights-of-way, easements, and other areas designated in the Contract Documents.
- D. Provide protection and safekeeping of material and products stored on or off the premises.
- E. Move any stored material or products which interfere with operations of Owner or other Contractors.

#### 1.6 WARRANTY

- A. The Contractor warrants and guarantees to the City that all work shall be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects will be given to the Contractor. All defective work, whether or not in place, may be rejected, corrected or accepted as provided in this proposal.
- B. If within one (1) year after the date of contract work completion or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents or by a special provision of the Contract Documents, any work is found to be defective, the Contractor shall comply in accordance with the City's written instructions. These written instructions will include either correcting such defective work or, if it has been rejected by the City, removing it from the site and replacing it with non-defective work. If the Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk or loss or damage, the City may have the defective work corrected or the rejected work removed and replaced. All direct and indirect costs of correction or removal and replacement of defective work, including compensation for additional professional services, shall be paid by the Contractor.

#### 1.7 WORK BY OTHERS

- A. The City of De Pere Park Department will trim all trees. Questions regarding trees or landscaping that is bid as part of this contract can be directed to the Engineer.
- B. Cooperate fully with separate contractors and/or Owner so work by others may be carried out smoothly, without interfering with or delaying work under this Contract.

#### 1.8 PROJECT UTILITY SOURCES

- A. Green Bay Metropolitan Sewer District (NEW Water), Lisa Sarau, ([lsarau@newwater.us](mailto:lsarau@newwater.us)) (920-438-1039)
- B. AT&T, Shea Gorzelanczyk, ([sg2528@att.com](mailto:sg2528@att.com)) (920-433-4250)

- C. Wisconsin Public Service, Bob Laskowski, ([rtlaskowski@wisconsinpublicservice.com](mailto:rtlaskowski@wisconsinpublicservice.com)) (920-617-2775)
- D. Charter, Vince Albin, ([vince.albin@charter.com](mailto:vince.albin@charter.com)) (920-378-0444)
- E. Nsight, Rick Vincent, ([rick.vincent@nsight.com](mailto:rick.vincent@nsight.com)) (920-617-7316)
- F. TDS Metrocom, Steve Jakubiec, ([steve.jakubiec@tdstelecom.com](mailto:steve.jakubiec@tdstelecom.com)) (920-882-4166)
- G. Net-Lec (Mi-Tech Services), Dennis Lafave, ([dlafave@mi-tech.us](mailto:dlafave@mi-tech.us)) (920-619-9774)
- H. Level3 (Mi-Tech Services), Chris Kraus, ([ckraus@mi-tech.us](mailto:ckraus@mi-tech.us)) (414-550-6201)

#### 1.9 MISCELLANEOUS PROVISIONS

- A. Notification to Residents – The Contractor shall individually notify all residents and businesses 2-weeks prior to the start of operations, giving an estimated time that vehicle movement will be limited or prohibited. Property owners shall be notified 24-hours prior to closing a drive.
- B. The intent of televising the sanitary sewer laterals is to find out if the laterals are active or not. Contractor is not to open the liner to the laterals that are abandoned and/or capped. Any questions on any laterals, contact the Engineer.
- C. If repair by excavation is required based on pre-televising, the City will repair under a separate contract.
- E. Several sewers discharge to Green Bay Metropolitan Sewerage District (GBMSD) facilities and will require coordination as follows:
  - 1. Ash Street – Connection to GBMSD Interceptor in easement. Manhole cover is locked. Access will be from GBMSD.
  - 2. Leonard Street - Connection in GBMSD WWTP on east end of project. WWTP is gated as shown on the plans. Access will be from GBMSD.

#### PART 2 – PRODUCTS

#### PART 3 – EXECUTION

END OF SECTION

**SECTION 01 22 06**

**MEASUREMENT AND PAYMENT PIPE LINING – CIPP**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- |                                 |                  |
|---------------------------------|------------------|
| A. Section includes:            | <u>Bid Items</u> |
| 1. Pipe Lining – CIPP           | SP-1 Thru SP-17  |
| 2. Televising Sanitary Laterals | SP-18            |
| 3. Internal Grouting            | SP-19            |
| 4. Internal CIPP Spot Repairs   | SP-20            |
- B. Unit Prices include:
1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all unit price items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item, but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
  2. The method of measurement for payment.
  3. The price per unit for payment.

**1.2 GENERAL WORK ITEMS**

- A. Include with the appropriate Unit Price Item the following work items which are common to the Unit Price Items for sanitary sewer systems.
- B. If there is a specific Unit Price Item for any of the following items, then the work item shall be included with that specific unit price item.
1. Traffic Control.
  2. Mobilization.
  3. All labor, material and equipment.
  4. Dust control.

**1.3 PIPE LINING - CIPP**

- A. The unit price for Sewer Cleaning work includes:
1. General Work Items of Article 1.2.
  2. Cleaning sewer pipe pre-lining and post lining.

3. Removal of roots, mineral deposits and other debris in the sewer pipe.
4. Televising of the sewer pipe pre-lining and post lining.
5. Bypassing existing flow.
6. Installation of the liner.
7. Reconnection of all active services.
8. Restoration of surfaces.
9. Cleaning the manhole of lining material.
10. Dispose of material from sewer pipe.

B. Measurement of payment will be from center of manhole to center of manhole.

C. The unit of measurement for payment is linear feet.

#### 1.4 TELEVISING SANITARY SEWER LATERALS

A. The unit price for Televising Sanitary Sewer Laterals work includes:

1. General Work Items of Article 1.2.
2. Televising of sewer laterals indicated by the Engineer to determine if it is active or not prior of lining the sewer line.

B. Measurement of payment will be the actual number of sanitary laterals televised.

C. The unit of measurement for payment is each.

#### 1.5 INTERNAL GROUTING

A. The unit price for Internal Grouting work includes:

1. General Work Items of Article 1.2.
2. Cleaning sewer pipe prior to grouting.
3. Removal of roots, mineral deposits and other debris at the joint to be grouted.
4. Removal of protruding laterals (where required).
5. Televising of the sewer pipe pre-grouting and post grouting.
6. Bypassing existing flow.
7. Installation of grout.
8. Restoration of surfaces.
9. Dispose of material from the sewer pipe.

B. Measurement of payment will be the actual number of internal grouting spots repaired.

C. The unit of measurement for payment is each.

1.6 INTERNAL CIPP SPOT REPAIR

- A. The unit price for Internal CIPP Spot Repairs work includes:
1. General Work Items of Article 1.2.
  2. Cleaning sewer pipe pre-lining.
  3. Removal of roots, mineral deposits and other debris at the spot repair.
  4. Televising of the sewer pipe pre-spot and post spot repair.
  5. Bypassing existing flow.
  6. Installation of spot repair liner.
  7. Reconnection of all active services at the repair (if applicable).
  8. Restoration of surface.
  9. Dispose of material from sewer pipe.
- B. Measurement of payment will be the actual number of internal CIPP spot repairs installed.
- C. The unit of measurement for payment is each.

END OF SECTION

**SECTION 01 22 07**

**MEASUREMENT AND PAYMENT MANHOLE REHABILITATION**

**PART 1 – GENERAL**

**1.1 SUMMARY**

**A. Section includes:**

1. Poured in Place Bench

**Bid Items**

**SP-21**

**B. Unit Prices include:**

1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all unit price items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item, but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
2. The method of measurement for payment.
3. The price per unit for payment.

**1.2 GENERAL WORK ITEMS**

A. Include with the appropriate Unit Price Item the following work items which are common to the Unit Price Items for sanitary sewer systems.

B. If there is a specific Unit Price Item for any of the following items, then the work item shall be included with that specific unit price item.

1. Traffic Control.
2. Mobilization.
3. All labor, material and equipment to perform specified work.
4. All safety requirements.

**1.3 POURED IN PLACE BENCH**

A. The unit price for Poured in Place Bench work includes:

1. General Work Items of Article 1.2.
2. Bypass pumping.
3. High pressure cleaning of interior.
4. Patching voids and cracks.
5. Stopping infiltration by patching or grouting.
6. Removing existing bench.

7. Disposal of existing bench.
  8. Forming bench and applying material to form bench.
  9. Cleaning of any debris left from pouring in the bench in the work area.
- B. Measurement of payment will be the actual number of poured in place bench installed.
- C. The unit of measurement for payment is each.

END OF SECTION

**SECTION 01 29 00  
PAYMENT PROCEDURES**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. This section includes:
  - 1. Administrative and procedural requirements necessary to prepare and process Applications for Payment

**1.2 SCHEDULE OF VALUES**

- A. Unit Price work will be the Schedule of Values used as the basis for reviewing Applications for Payment.

**1.3 APPLICATIONS FOR PAYMENT**

- A. Each Application for Payment shall be consistent with previous applications and payments as recommended by the Engineer and approved by Owner.
- B. The date for each progress payment should be the 3rd Tuesday of each month. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends the 4<sup>th</sup> Friday of the Month.
- C. Use forms provided by Engineer for Applications for Payment. Sample copy of the Application for Payment and Continuation Sheet is included in Section 00 62 76.
- D. Application Preparation Procedures
  - 1. When requested by the Contractor, the Engineer will determine the actual quantities and classifications of Unit Price Work performed.
    - a. Preliminary determinations will be reviewed with the Contractor before completing Application for Payment.
    - b. Engineer will complete the Application for Payment based on Engineer's decision on actual quantities and classifications.
    - c. Engineer will submit three original copies of Application for Payment to Contractor for certification of all three original copies.
    - d. Contractor shall submit signed Application for payment to Owner for approval within time frame agreed to at the Preconstruction Conference.
  - 2. If payment is requested for materials and equipment not incorporated in the Work, then the following shall be submitted with the Application for Payment:
    - a. Evidence that materials and equipment are suitably stored at the site or at another location agreed to in writing.
    - b. A bill of sale, invoice, or other documentation warranting that the materials and equipment are free and clear of all liens.

- c. Evidence that the materials and equipment are covered by property insurance.
  3. Complete every entry on form. Execute by a person authorized to sign legal documents on behalf of Contractor.
- E. With each Application for Payment, submit waivers of liens from subcontractors and suppliers for the construction period covered by the previous application.
  1. Submit partial waivers on each item for amount requested before deduction for retainage on each item.
  2. When an application shows completion for an item, submit final or full waivers.
  3. Owner reserves the right to designate which entities involved in the Work shall submit waivers.
  4. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application.
  5. Submit waivers of lien on forms executed in a manner acceptable to Owner.
- F. The following administrative actions and submittals shall precede or coincide with submittal of first Application for Payment:
  1. List of subcontractors.
  2. Schedule of Values (For Lump Sum Work).
  3. Contractor's construction schedule.
- G. Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted including, but not limited, to the following:
  1. Evidence of completion of Project closeout requirements.
  2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  3. Updated final statement, accounting for final changes to the Contract Sum.
  4. Consent of Surety to Final Payment.
  5. Final lien waivers as evidence that claims have been settled.
  6. Final liquidated damages settlement statement.

**PART 2 – PRODUCTS**

**PART 3 – EXECUTION**

**END OF SECTION**

**SECTION 01 32 33  
CONSTRUCTION PHOTOGRAPHS**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Photographs for utility construction sites.

**1.2 SUBMITTALS**

- A. Submit electronic files of each photographic view within seven (7) days of taking photographs.

**1.3 QUALITY ASSURANCE**

- A. Photographs are to be submitted to the Engineer for approval prior to the start of construction.

**PART 2 – PRODUCTS**

**PART 3 – EXECUTION**

**3.1 UTILITY AND STREET CONSTRUCTION SITES**

- A. Prior to start of construction provide sufficient photographs to adequately show the existing facilities and conditions within and adjacent to the construction Site to serve as a guide for final restoration including:
  - 1. Utility structures utilized for access.

**END OF SECTION**

**SECTION 01 33 00  
SUBMITTALS**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. Section includes administrative and procedural requirements for submittals:
  - 1. Progress Schedule
  - 2. Schedule of Shop Drawings and Sample Submittals
  - 3. Shop Drawings
  
- B. Failure to meet Submittal requirements to the satisfaction of the Engineer will constitute unsatisfactory performance of the work in accordance with the Contract Documents, therefore, the Engineer may recommend to the Owner that all or a portion of payments requested during the corresponding pay period be withheld until these requirements are met.

**1.2 SUBMITTAL PROCEDURES**

- A. Coordination
  - Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  - 2. Coordinate transmittal of different types of submittals for related elements of the work so processing will not be delayed by the need to review submittals concurrently for coordination.
    - a. The Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.
  - 3. To avoid the need to delay installation as a result of the time required to process submittals, allow sufficient time for submittal review, including time for re-submittals.
    - a. Allow two weeks for initial submittal.
    - b. Allow two weeks for reprocessing each submittal.
    - c. No extension of Contract Time will be authorized because of failure to transmit submittals to the Engineer sufficiently in advance of the work to permit processing.
  
- B. Submittal Preparation
  - Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
  - 1. Assign a reference number to each submittal and re-submittal.
  - 2. Provide a space approximately 4 by 5 inches (100 by 125 mm) on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
  - 3. Include the following information on the label for processing and recording action taken.

- a. Project name.
  - b. Date.
  - c. Name and address of the Engineer.
  - d. Name and address of the Contractor.
  - e. Name and address of the subcontractor.
  - f. Name and address of the supplier.
  - g. Name of the manufacturer.
  - h. Number and title of appropriate Specification Section.
  - i. Drawing number and detail references, as appropriate.
4. Each submittal shall be stamped by the Contractor indicating that submittal was reviewed for conformance with the Contract Documents. The Engineer will not accept unstamped submittals.

**C. Submittal Transmittal**

Package each submittal appropriately for transmittal and handling. Transmit each submittal to the Engineer. The Engineer will not accept submittals received from sources other than the Contractor.

1. On the transmittal, record relevant information and requests for Engineer action. On a form, or separate sheet, record deviations from Contract Document requirements, including variations, limitations, and justifications. Include Contractor's certification that information complies with Contract Document requirements.

**1.3 CONTRACTOR'S PROGRESS SCHEDULE**

- A. Prepare and submit to the Engineer within 10 days after the Effective Date of the Agreement, four copies of a preliminary progress schedule of the work activities from Notice to Proceed until Substantial Completion.
1. Provide sufficient detail of the work activities comprising the schedule to assure adequate planning and execution of the work, such that in the judgment of the Engineer, it provides an appropriate basis for monitoring and evaluation of the progress of the work. A work activity is defined as an activity which requires substantial time and resources (manpower, equipment, and/or material) to complete and must be performed before the contract is considered complete.
  2. The schedule shall indicate the sequence of work activities. Identify each activity with a description, start date, completion date and duration. Include, but do not limit to the following items, as appropriate to this contract:
    - a. Shop drawing review by the Engineer.
    - b. Excavation and grading.
    - c. Asphalt and concrete placement sequence.
    - d. Restoration.
    - e. Construction of various segments of utilities.
    - f. Subcontractor's items of work.
    - g. Allowance for inclement weather.
    - h. Contract interfaces, date of Substantial Completion.

- i. Interfacing and sequencing with existing facilities and utilities.
  - j. Sequencing of major construction activities.
  - k. Milestones and completion dates.
- B. Distribution
- Following response to the initial submittal, print and distribute copies of the revised construction schedule to the Engineer, Subcontractors, and other parties required to comply with scheduled dates. When revisions are made, distribute to the same parties. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.
- C. Schedule Updating
- Revise the schedule after each meeting, event, or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.
- D. Punch List
- Prepare and submit to the Engineer within 10 days after substantial completion a detailed progress schedule for outstanding work and punch list items.

#### 1.4 SCHEDULE OF SHOP DRAWINGS AND SAMPLE SUBMITTALS

- A. Submit four (4) hard copies or electronic copies of preliminary submittal schedule in accordance with the General Conditions of the Contract and as follows:
1. Coordinate submittal schedule with the subcontractors, Schedule of Values, and of products as well as the Contractor's Progress Schedule.
  2. Prepare the schedule in chronological order. Provide the following information:
    - a. Scheduled date for the first submittal.
    - b. Related Section number.
    - c. Submittal category (Shop Drawings, Product Data, or Samples).
    - d. Name of the subcontractor.
    - e. Description of the part of the work covered.
    - f. Scheduled date for the Engineer's final release or approval.
- B. Distribution
- Following response to the preliminary submittal schedule, print and distribute copies of the revised submittal schedule to the Engineer, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the field office.
1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.
- C. Schedule Updating
- Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

## 1.5 SHOP DRAWINGS

- A. Submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.
- B. Collect product data into a single submittal for each element of construction of system. Product data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.
  - 1. Mark each copy to show actual product to be provided. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information. Include the following information:
    - a. Manufacturer's printed recommendations.
    - b. Compliance with trade association standards.
    - c. Compliance with recognized testing agency standards.
    - d. Application of testing agency labels and seals.
    - e. Notation of dimensions verified by field measurement.
    - f. Notation of coordination requirements.
- C. Do not use shop drawings without an appropriate final stamp indicating action taken.
- D. Submittals  
Submit four (4) copies of each required submittal. The Engineer will retain two copies, and return the others to the Contractor marked with action taken and corrections or modifications required.
- E. Distribution  
Furnish copies of reviewed submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms. Maintain one copy at the project site for reference.
  - 1. Do not proceed with installation until a copy of the Shop drawing is in the Installer's possession.
  - 2. Do not permit use of unmarked copies of the Shop Drawing in connection with construction.

## 1.6 ENGINEER'S ACTION

- A. Except for submittals for the record or information, where action and return is required, the Engineer will review each submittal, mark to indicate action taken, and return promptly. The Engineer will stamp each submittal with a uniform action stamp. The Engineer will mark the stamp appropriately to indicate the action taken, as follows:

1. “No Exceptions Taken”: The work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents.
2. “Make Corrections Noted”: The work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents.
3. “Amend and Resubmit”: Do not proceed with work covered by the submittal. Resubmit without delay. Do not use, or allow others to use, submittals marked “Amend and Resubmit” at the Project Site or elsewhere where work is in progress.
4. “Rejected – See Remarks”: Do not proceed with work covered by the submittal. Resubmit without delay. Do not use, or allow others to use, submittals marked “Rejected and Resubmit” at the Project Site or elsewhere where work is in progress.

**B. Unsolicited Submittals**

The Engineer/Architect will return unsolicited submittals to the sender without action.

**PART 2 – PRODUCTS**

**PART 3 – EXECUTION**

**END OF SECTION**

**SECTION 01 41 00**

**REGULATORY REQUIREMENTS**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. Section Includes
  - 1. Underground Utilities
  - 2. Property Monuments
  - 3. Traffic Control

**1.2 UNDERGROUND UTILITIES**

- A. Under the provisions of Wisconsin Statutes, Section 182.0175, all contractors, subcontractors, and any firm or individual intending to do work on this contract shall contact all utility firms in the affected area of construction a minimum of three (3) working days prior to beginning construction so that affected utilities will be located and marked.

**1.3 PROPERTY MONUMENTS**

- A. Protect iron pipe monuments from movement.
- B. The cost of replacement of any monuments moved or destroyed during construction shall be the Contractor's responsibility.
- C. Perpetuation of destroyed or moved monuments shall be performed in accordance with state statutes by a registered land surveyor.

**1.4 TRAFFIC CONTROL**

- A. Provide traffic control facilities including barricades, signs, lights, warning devices, pavement markings, flaggers, etc.
- B. Construct and use traffic control facilities in accordance with the U.S. D. O. T. Federal Highway Administration's Manual on Uniform Traffic Control Devices for Streets and Highways.
- C. Maintain traffic control devices as required to properly safeguard the public travel through final completion, including during periods of suspension of work.

**PART 2 – PRODUCTS (Not used)**

**PART 3 – EXECUTION (Not used)**

**END OF SECTION**

**SECTION 33 01 30**

**CURED IN PLACE PIPE (CIPP)**

**PART 1 – GENERAL**

**1.1 SUMMARY**

**A. Section Includes**

1. Section includes lining processes for the rehabilitation of existing sanitary sewer mains using cured-in-place pipe.

**1.2 REFERENCES**

**A. American Society for Testing and Materials (ASTM):**

1. ASTM D543 Test Method for Resistance of Plastics to Chemical Reagents
2. ASTM D638 Test Method for Tensile Properties of Plastics
3. ASTM 790 Test Method for Tensile Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
4. ASTM 903 Standard Test for Delamination of Plastic Composites
5. ASTM F1216 Rehabilitation of Existing Pipelines and Conduits by Inversion and Curing of a Resin-Impregnated Tube
6. ASTM D2990 Standard Test Methods for Flexural Properties of Unreinforced Plastics and Electrical Insulating Materials
7. ASTM 3034 Type PSM Poly (Vinyl/chloride)(PVC) Sewer Pipe and Fittings
8. ASTM D1248 Specification for Polyethylene Plastics molding and Extrusion Materials.
9. ASTM F1504 Standard Specification for Folded Poly (Vinyl/Chloride)(PVC) Pipe for Existing Sewer and Condit Rehabilitation
10. ASTM F1533 Standard Specification for Deformed Polyethylene (PE) Liner
11. ASTM D1784 Standard Specification for Rigid Poly (Vinyl/Chloride) and Chlorinated Poly (Vinyl/Chloride) Components
12. ASTM D2122 Method for Determining Dimensions of Thermoplastic Pipe and Fittings
13. ASTM D3350 Specifications for Polyethylene Plastics Pipe and Fittings Material

**1.3 SUBMITTALS**

**A. Product Data.**

1. Manufacturer's product literature and application and installation requirement for materials used in liner.
2. Manufacturer's product certification for materials used in liner.
3. Liner Pipe Thickness Design (Cured-in-Place).

4. Liner Pipe Thickness Design shall be in accordance with Appendix XI of ASTM F1216. In the liner thickness calculations shall be based on the following.
  - a. Fully deteriorated Pipe (No structure support from existing pipe).
  - b. Minimum ovality of Host Pipe shall be 2%.
  - c. Height of Groundwater shall be 50% of Pipe Depth.
  - d. The Enhancement Factor (K) shall not be greater than 7.0.
  - e. The Minimum Safety Factor shall be 2.0.
  - f. The Flexural Modulus of Elasticity shall be reduced 50% to account for long term effects and used in the design equation EL.
5. No liner shall be installed until it has been approved for installation.
6. No liner will be approved for installation until liner thickness calculations have been submitted and reviewed for conformance with the specifications and installation requirements.

**B. Miscellaneous Submittals**

1. Copies of video DVD (MPEG 2 format) of pre-lining and post-lining.
2. Test results required under Part 3.
3. Proposed plan for bypassing sewage during liner installation.
4. Documentation of when liner is impregnated and the potential life of impregnated liner.
5. Provide photographs of existing ground conditions prior to performing sanitary sewer lining.

**1.4 QUALITY ASSURANCE**

**A. Corrosion**

1. Fabricate finished liner from materials which, when cured, will be chemically resistant to withstand internal exposure to domestic sewage.

**B. Manhole Connections**

1. All manhole connections shall be watertight and approved by the Engineer.

**C. Testing**

1. Test finished pipe liner in accordance with this section.

**PART 2 – PRODUCTS**

**2.1 CURED – IN – PLACE PIPE LINER (CIPP LINER)**

**A. Resin**

1. Liner Bag: Polyester resin for general chemical applications.
  - a. Resin shall not contain fillers, except those required for viscosity control or fire retardance. Up to 5% by mass thixotropic agent which will not interfere with visual inspection may be added for viscosity control.
  - b. Resins may contain pigments, dyes or colorants which will not interfere with visual inspection of cured liner.
2. Epoxy resin may be required by contractor, if conditions are deemed to warrant their use.
  - a. Use of up to 40% by mass of suitable fillers may be permitted.

**B. Reinforcing Material**

1. Non-woven needle interlocked polyester felt formed into sheets of required thickness.
2. Felt tubes may be made of single or multiple layer construction with any layer not less than 1.5 mm thick.
3. Mechanical strengthener membrane or strips may be sandwiched in between layers where required to control longitudinal stretching.
4. Polyurethane membrane used during inversion of tube may be left on internal surface of liner after curing.
5. Minimum thickness of bonded polyurethane membrane and inner liner, if used shall be 0.30 mm, +5% and shall not affect structural dimension requirements of cured liner.
6. Minimum liner thickness shall be 6 millimeters, with an allowable spot variation of 10%.

**C. Felt Content**

1. Content shall ensure cured thickness of liner as specified.
2. Thickness of cured liner to be as specified (+10%-4%) and shall not include thickness of polyurethane inner liner.

**D. Resin Content**

1. 10% to 15% by volume greater than volume of felt in liner bag.

**E. Cured liner shall conform to minimal structure standards listed:**

Tensile Strength	ASTM D638	3,000 psi
Flexural Modulus of Elasticity	ASTM D790	250,000 psi
Flexural	ASTM D790	4,500 psi

F. Fabricate liner to size when installed, will fit internal circumference of pipe, allowance shall be made for circumferential stretching during insertion.

G. Meet requirements of ASTM F1216.

### **PART 3 – INSTALLATION**

#### **3.1 EXAMINATION**

A. Examine videos for condition of pipe interior before starting work.

#### **3.2 PREPARATION**

A. Prior to liner installation, sufficiently clean roots, encrustations of cast iron pipe, mineral deposits, and other debris from sewer line to provide for proper installation of product. Sewer liner to be televised after cleaning.

B. Remove or repair offset joints, protruding services or collapsed pipe that will prevent insertion of liner.

1. Excavation to make repairs or due to bends in the pipe that are required due to a pre-existing condition will be completed by the City under a separate contract. The City shall be notified of repairs in a timely fashion to facilitate the repair prior to lining.

C. If Contractor or Engineer determines that existing pipe is 15% or more out of roundness, Contractor shall redesign liner.

1. Notify Engineer of condition of pipe.

D. Any visible leaks prior to sewer lining that will prevent proper installation of the liner shall be grouted prior to lining.

E. Field verify all active sanitary sewer laterals prior to lining.

F. Sewage Bypassing

1. Provide for flow of sewage around section of pipe to be lined.

a. Pump or bypass lines shall be adequate size and capacity to handle flow.

b. Coordinate bypassing operations with Engineer.

### 3.3 INSTALLATION

#### A. CIPP Liner

1. Preparation of liner:
  - a. Designate location where uncured resin in original containers and unimpregnated liner will be vacuum impregnated prior to installation. Contractor shall allow Engineer to inspect materials and “wet out” procedure.
  - b. Resin and catalyst system compatible with requirement of this method shall be used. Quantities of liquid thermosetting materials shall be to manufacturer’s standards to provide lining thickness required.
  - c. Liner tube shall be impregnated with resin not more than seven days before proposed time for installation and stored out of direct sunlight at temperature less than 40°F(4°C).
  - d. Transport resin impregnated liner to site immediately prior to inversion in suitable light-proof container with temperature maintained below 40°F (4°C).
2. Insertion of liner:
  - a. Insert liner through an existing manhole or other access by means of an inversion process and application of hydrostatic head or air insertion sufficient to fully extend liner to next designated manhole or termination point or by means of winching the liner through the last pipe to the next designated manhole or termination point. Lubricant may be used.
3. Curing liner:
  - a. After inversion is complete, provide heat source and water or steam recirculation equipment. Equipment shall be capable of delivering hot water or steam throughout section to uniformly raise water temperature above temperature required to effect cure of resin.
  - b. Provide heat source with suitable monitors to gauge temperature of incoming and outgoing water or steam supply. Place second gauge between impregnated liner and pipe invert at remote manhole to determine temperatures during cure. Water or steam temperature in line during cure period shall be as recommended by resin manufacturer.
  - c. Initial cure shall be complete when inspection of exposed portions of liner are hard and sound and remote temperature sensor indicates that temperature is of magnitude to realize an exotherm. Cure period shall be of duration recommended by resin manufacturer.
  - d. Cool hardened liner to temperature below 100°F before relieving static head in inversion standpipe or before relieving steam pressure. Cool down by introduction of cool water or air into CIPP to replace water or steam being drained from

downstream end. Care shall be taken in release of static head or steam so that a vacuum will not be developed that could damage newly installed liner.

4. Lateral reinstatement:
  - a. Reinstatement all active sanitary laterals after pipe has been cured by using a remote cutting device with a camera.
  - b. After reinstatement all lateral connections shall be brushed/cleaned to remove jagged edges and to smooth the cut edge.

### 3.4 FIELD QUALITY CONTROL

#### A. CIPP Liners

1. Finished Liner:
  - a. Liner shall be continuous over entire length of insertion run and be as free as commercially practicable from visual defects such as foreign inclusions, dry spots, pinholes, lifts, and delamination.
  - b. During curing process, gauge water tightness under positive head.
  - c. Liner shall conform to shape of existing pipe before installation and not be out of round by more than 15%.
2. Liner Thickness:
  - a. Cured liner shall be accurately measured and shall not be more than 5% thickness specified.
3. Felt and Resin Content of Liner:
  - a. Visually inspect liner to ensure number of layers of felt conform to specified number of layers and thickness.
  - b. Calculate resin to felt ratio by weight.
  - c. Ratio shall fall in range 1.0.1 to 1.15.1
4. Testing:
  - a. Tensile Strength for Force Main Lined Pipe
    - 1) Test in accordance with ASTM D638.
    - 2) Specimens tested shall be actual thickness of fabricated liner.
    - 3) Do not machine specimen on surface.
    - 4) Tensile strength shall be average of 5 specimens tested.
  - b. Flexural Strength and Modulus of Elasticity.
    - 1) Test in accordance with ASTM D790.
    - 2) Specimens tested shall be actual thickness of fabricated liner.
    - 3) Do not machine specimen on surface.
    - 4) Make test with smooth (inner) face in compression using 5 specimens.

5. Examination:
  - a. Televising interior of pipe after completion of work but before introducing wastewater flow and provide DVD (MPEG 2) to Engineer.
  - b. Naming convention of the televising inspection report shall follow what is on the Drawings or in the Exhibits.
  - c. Use pan and tilt color 3 lux camera to view the sewer service lateral connection reinstatement.

### 3.5 CLEANING AND RESTORATION

- A. At completion of work, remove rubbish, debris, dirt, equipment and excess material from site. Clean adjacent surfaces soiled by and during course of work.
- B. Restore areas disturbed to original condition.
- C. Repair any surface damage that may occur during the heating of the liner caused by frost heave.

### 3.6 ACCEPTANCE

- A. Grounds for rejection or repair of CIPP shall be:
  1. Excessive bending or flattening of CIPP not related to the existing pipe condition.
  2. Visible infiltration.
  3. Visible damage from the lining procedure.
  4. Bulges/intrusions in the invert of the liner that impede flow and not related to the shape of the existing pipe.
  5. Bulges/intrusions above the invert that extend into the pipe by greater than 10% of the pipe diameter and not related to the shape of the existing pipe.

END OF SECTION

**SECTION 33 01 30.61**

**SEWER REHABILITATION USING CHEMICAL GROUTING**

**PART 1 – GENERAL**

**1.1 SUMMARY**

**A. Section Includes**

1. Sewer line cleaning.
2. Television inspection.
3. Sewer pipe joint testing.
4. Sewer pipe joint sealing using the packer method.

**1.2 REFERENCES**

**A. American Society for Testing and Materials**

1. ASTM F2304 Standard Practice for Rehabilitation of Sewer Using Chemical Grouting

**B. National Association of Sewer Service Companies**

1. NASSCO Specifications Guidelines, Wastewater Collection Systems Maintenance and Rehabilitation, Sewer Line Cleaning
2. NASSCO Specifications Guidelines, Wastewater Collection Systems Maintenance and Rehabilitation, Television Inspection, Main Sewers

**1.3 SUBMITTALS**

**A. Product Data**

1. Submit chemical grout material information along with any additives. Include supplier, manufacturer and product names of chemical sealing materials.

**B. Submit equipment operation procedures and systems.**

**C. Field Quality Control Submittals**

1. Submit copies of video DVDs.
2. Submit Sewer Pipe Joint Testing results and report.
3. Submit Records for each joint sealing.

D. Qualification Statements

1. Submit qualification statements

1.4 QUALITY ASSURANCE

A. Qualifications

1. The installing contractor shall provide experience evidence that they have performed sewer rehabilitation using chemical grouting for at least the last five years.
2. Provide a list of at least ten projects with references where chemical grouting of sewers was performed in the last five years. State the type of grout material used.
3. Identify key people who will work on the project, describe their job function and experience with at least ten different sewer chemical grouting projects.
4. Provide list of available equipment for use in sewer chemical grouting.

B. Certifications

1. Provide written certification that backup equipment is available and will be delivered to the site within 48 hours if equipment failure occurs. Stat the location of the backup equipment.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Acrylamide Base Gel Sealing Material

1. Provide in accordance with Chemical Grout Sealing Materials of ASTM F2304.
2. Identify and use additives which can strengthen grout, reduce grout shrinkage, protect against low temperatures, increase viscosity, help fill large voids, and inhibit root growth as required for each joint application.

B. Urethane Base Gel Chemical Sealing Material

1. Provide in accordance with Chemical Grout Sealing Materials of ASTM F2304.
2. Provide additive to reduce dehydration where groundwater is below the pipeline
3. Identify and use additives which can strengthen grout, reduce shrinkage, protect against low temperatures, increase viscosity, help fill large voids, and inhibit root growth as required for each joint application.

C. Urethane Base Foam Chemical Sealing Material

1. Provide in accordance with Chemical Grout Sealing Materials of ASTM F2304.
2. Identify and use additives which can strengthen grout, reduce shrinkage, protect against low temperatures, increase viscosity, help fill large voids, and inhibit root growth as required for each joint application.

D. Equipment

1. Provide equipment as stated in ASTM F2304.
2. Equipment shall be calibrated.

**PART 3 – INSTALLATION**

**3.1 EXAMINATION**

A. Verification of Conditions

1. Prior to start of sewer cleaning locate and expose sewer access manholes.
2. Identify any pump stations that are discharging to the sewer being rehabilitated and make arrangements with the Owner to shutdown or operate manually during the sewer rehabilitation process.
3. Notify affected residents of intent to perform sewer rehabilitation work and advise residents of any possible repercussions to their property or any limitations in sewer use.
4. Contact public agency having jurisdiction over the roadway to determine the allowable traffic control required during the sewer rehabilitation process.

**3.2 PREPARATION**

A. Sewer Line Cleaning

1. Clean sewer meeting NASSCO Specification Guidelines.
2. Sufficiently clean sewer to be rehabilitated to remove foreign materials and to obtain proper seating of the packer.

B. Sewer Flow Control

1. Reduce sewer pipeline flow to acceptable levels for television inspections and joint testing/sealing in accordance with ASTM F2304.

C. Television Inspection

1. Inspect each sewer section to be chemical grouted using color closed-circuit television meeting NASSCO Specification Guidelines.
2. Provide video DVD of the inspection.

D. Sewer Pipe Joint Testing

1. Pressure test all non-visibly leaking joints in accordance with the Method for Sewer Joint Testing in ASTM F2304.
2. Provide report on results of control test, intermediate test, final test equipment observations State actions taken as result of tests.
3. Provide report in accordance with ASTM F2304 of each joint pressure test.
4. Provide location of all joints found to be leaking.

**3.3 SEWER PIPE JOINT SEALING**

- A. Perform joint sealing of joints identified by the engineer for sealing. Joints per sewer section to be sealed may range from 10% of the joints to 100% of the joints.
- B. Perform joint sealing in accordance to ASTM F2304 Sewer Pipe Joint Sealing, Main Sewers (Packer Method).
- C. Record information for each joint as stated in ASTM F2304 Sewer Pipe Sealing, Main Sewers (Packer Method).

**END OF SECTION**

**SECTION 33 39 13.02**

**MANHOLE REHABILITATION - POURED IN PLACE BENCH**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. Work under this section includes manhole rehabilitation to eliminate infiltration, provide corrosion protection, repair voids, and restore structural integrity of the bench of the manhole.
  
- B. Work under this section generally shall include:
  - 1. Removal of any loose and unsound materials
  - 2. Cleaning surface using high-pressure water.
  - 3. Repair and filling voids.
  - 4. Repair and sealing invert and benches.
  - 5. Elimination of active infiltration prior to installation of the liner.
  - 6. Installation of bench.

**1.2 SUBMITTALS**

- A. Submit shop drawings in accordance with Section 01300, Submittals, including:
  - 1. Product literature and catalog cut sheets of all materials to be supplied that relate to these specifications.
  - 2. One copy of all test reports.
  - 3. Procedure for establishing the bench and flowline.

**1.3 QUALITY ASSURANCE**

- A. The Contractor shall guarantee all work performed under the contract for a period of one (1) year from date of final acceptance against defective material and workmanship of any nature.
  
- B. The Contractor shall warrant and save harmless the Owner against any claims for potential infringement and any loss thereof.

**PART 2 – PRODUCTS**

**2.1 PRODUCTS**

- A. Patching, infiltration control, grouting, and/or liner mix shall be a cementitious material mixed and applied in accordance with the specification of the appropriate manufacturer.
- B. No applications shall be made to frozen surfaces or if freezing is expected to occur inside the manhole within 24 hours after application.
- C. Method of application is determined by type of product used and will be at the Contractor's discretion.
- D. Water used for mixing the grouts shall be clean and potable.
- E. Equipment used shall be specifically constructed for the purpose intended and be recommended by the manufacturer of the materials to be applied.

**2.2 BENCH THICKNESS**

- A. The restoration shall be accomplished by pouring a new concrete bench in the existing manhole. The new liner shall have a minimum thickness of three (3) inches.

**2.3 PATCHING MIX**

- A. A quick setting cementitious material shall be used as a patching mix and is to be mixed and applied according to the manufacturer's recommendations and shall have the following minimum requirements:
  - 1. Compressive strength at 6 hr (ASTM C 109) 1,400 psi
  - 2. Shrinkage at 90% relative humidity (ASTM C-596) 0%
  - 3. Bending strength at 28 days (ASTM C 321) 150 psi
  - 4. Cement Sulfate resistant
  - 5. Density at application 105 ± 5 pcf

**2.4 MIXTURE FOR INFILTRATION CONTROL**

- A. The grout used for the control of infiltration shall be a rapid setting cementitious grout specifically formulated for leak control. The grout shall be mixed and applied in

accordance with the manufacturer's recommendations and have the following minimum requirements:

- |   |           |
|---|-----------|
| 1. Compressive strength at 1 hr (ASTM C 109)  | 600 psi   |
| 2. Compressive strength at 24 hr (ASTM C-109) | 1,800 psi |
| 3. Bonding strength at 1 hr (ASTM C-321)      | 30 psi    |
| 4. Bonding strength at 24 hr (ASTM C-321)     | 80 psi    |

B. The concrete material shall be selected and proportioned to produce a concrete, which will be strong, dense, and resistant to weathering and abrasion. Concrete shall have a 28-day cure strength at 4,000 psi.

C. Provide the mixture specification to the Engineer prior to lining.

D. Provide the 28-day strength test results to the Engineer.

## 2.5 MIXTURE FOR INVERT AND BENCH REPAIRS

A. The grout used for invert and bench repairs shall conform to ASTM C-33, C-94, C-150, C-260 and C-494 and have the following minimum requirements at 28 days:

- |                         |           |
|-------------------------|-----------|
| 1. Compressive strength | 4,000 psi |
|-------------------------|-----------|

## PART 3 – INSTALLATION

### 3.1 PREPARATION

A. All pipe connections to the manhole shall be covered or plugged to prevent extraneous materials from entering the sewer lines.

B. All foreign material shall be removed from the manhole wall and bench using a high-pressure water spray applied at a minimum pressure of 2,000 psi. Loose and protruding brick, blocks, and mortar shall be removed using a mason's hammer and chisel, and/or scraper meeting the approval of the Engineer. All large voids shall be filled using the specified quick setting patching mix as approved by the Engineer.

C. Active leaks shall be stopped using a quick setting hydraulic cement mix meeting the specified conditions and approved by the Engineer. The mix shall be applied in accordance with the manufacturer's recommendations. Some of the leaks may require holes to localize the infiltration during the application of the hydraulic cement. After the application of the hydraulic cement, the weep holes shall be plugged.

- D. The structure must be prepared to allow:
  - 1. Material will be removed by mechanical means. Assistance of specially designed, air operated, chippers and pneumatic chisels are highly recommended.
  - 2. Removed material will not be allowed to enter the pipeline. Remove all dislodged material from the structure.

### 3.2 INVERT AND BENCH REPAIRS

- A. Loose material shall be removed from the bottom and the invert and bench shall be repaired using a quick setting patching mix approved by the Engineer.
- B. Invert repairs shall be made on all inverts.
  - 1. Bench and invert repair
    - a. Preparation
    - b. Whenever possible, bypass plugs will be installed in all the inlets and plumbed into the outlet, allowing flow to pass through the structure without interference with bench and invert repairs. If plugs cannot be installed, bypass pumping or other approved alternative shall be used to allow the repairs to be made.
    - c. All loose or deteriorated material must be removed.
    - d. Material will be removed to allow a minimum of two (2) inches of new concrete to be placed around the circumference of the invert and over the existing bench at a point half the depth of the outlet invert and tapered up to the wall.
- C. The invert shall be cleaned and the quick setting mix shall be applied to the invert and the bench.
- D. The surface of the mixture shall be trowel finished and spread over the bench sufficiently to tie into the structurally enhanced liner that will be applied to the walls of the manhole.
- E. The flow in the manhole shall be reestablished within 30 minutes after placing the patching mix.
- F. A forming system shall be used to provide a perfect flow line from the invert of the inlet pipe to invert of the outlet pipe. Where laterals are involved, the system shall provide for a sanitary sweep into the main invert, again in a perfect flow line from the invert of the inlet lateral to the invert of the outlet piping. This invert forming system will be that of Infratech, 6248 Lakeland Avenue North, Brooklyn Park, Minnesota 55428, (612) 533-4525 or approved equal including modular composite plastic invert replacement systems.

G. Material shall be as follows:

1. Composition: Concrete mixture shall conform to the following ASTM standards: C-33, C-94, C-150; C-260; and C-494.
2. Strength requirement;
3. Concrete ingredients shall be selected and proportioned in such a manner as to produce concrete, which will be extremely strong, dense, and resistant to weathering and abrasion. Concrete shall have a minimum 28-day cure strength of 4,000 psi.

H. Installation shall be as follows:

1. New concrete shall be placed, to a minimum two (2) inch thickness, over solid concrete properly prepared as specified for manhole walls. Where solid concrete does not remain after preparation, new concrete shall be poured to a minimum four (4) inch thickness. Concrete shall be placed forming an invert depth half the diameter of the outlet pipe. The new bench shall be tapered up to the manhole wall.
2. Once installed, the new concrete shall be allowed to cure a minimum of 24 hours before flow can pass directly over the new concrete.

### 3.3 CURING

- A. The contractor shall take the necessary precautions to insure that the lining material is not exposed to sunlight or air movement. The lining material shall be allowed to cure for a minimum of four hours before the flow in the manhole is reestablished.

### 3.4 TESTING

- A. Prior to acceptance of manhole rehabilitation, the manhole will be visually inspected for the absence of leaks.

END OF SECTION

**EXHIBITS**